



# **The Burning Question: Now & Beyond**

Western Australian Prescribed Burning Forum 2017

## **Before the Match**

### **Session Objectives**

1. To understand risk, decision making and associated human factors
2. To understand the 11 principles of ISO31000
3. To use those principles to identify and test uncertainties and assumptions



# **The Burning Question: Now & Beyond**

Western Australian Prescribed Burning Forum 2017

## **Before the Match**

**Risk Management, Methods, Myths  
and Decision Making**

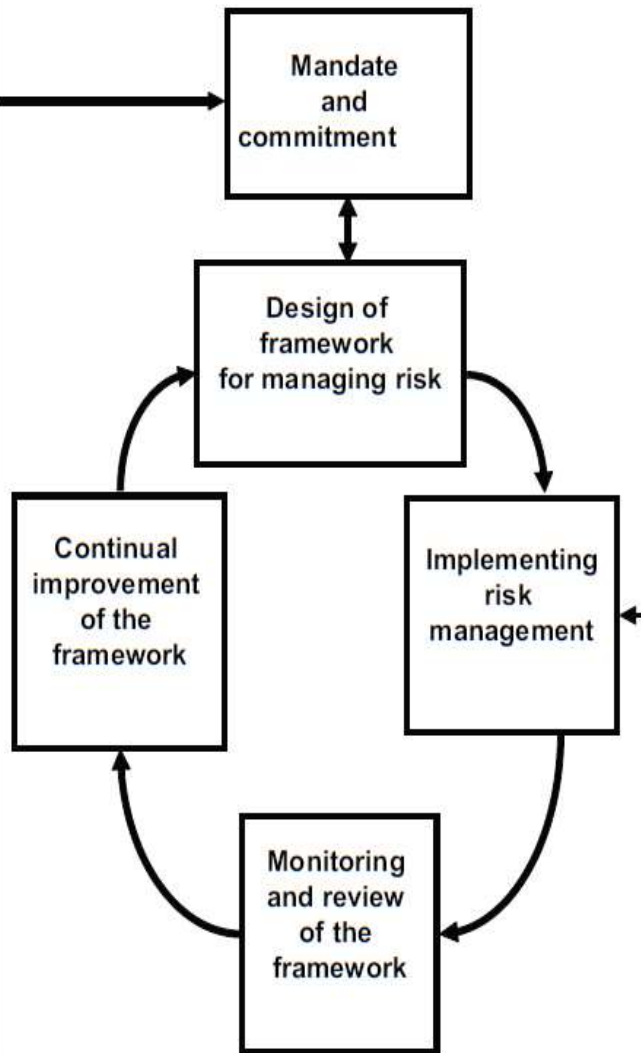
**Trevor Howard**

**8 – 11 August 2017, Busselton, Western Australia**

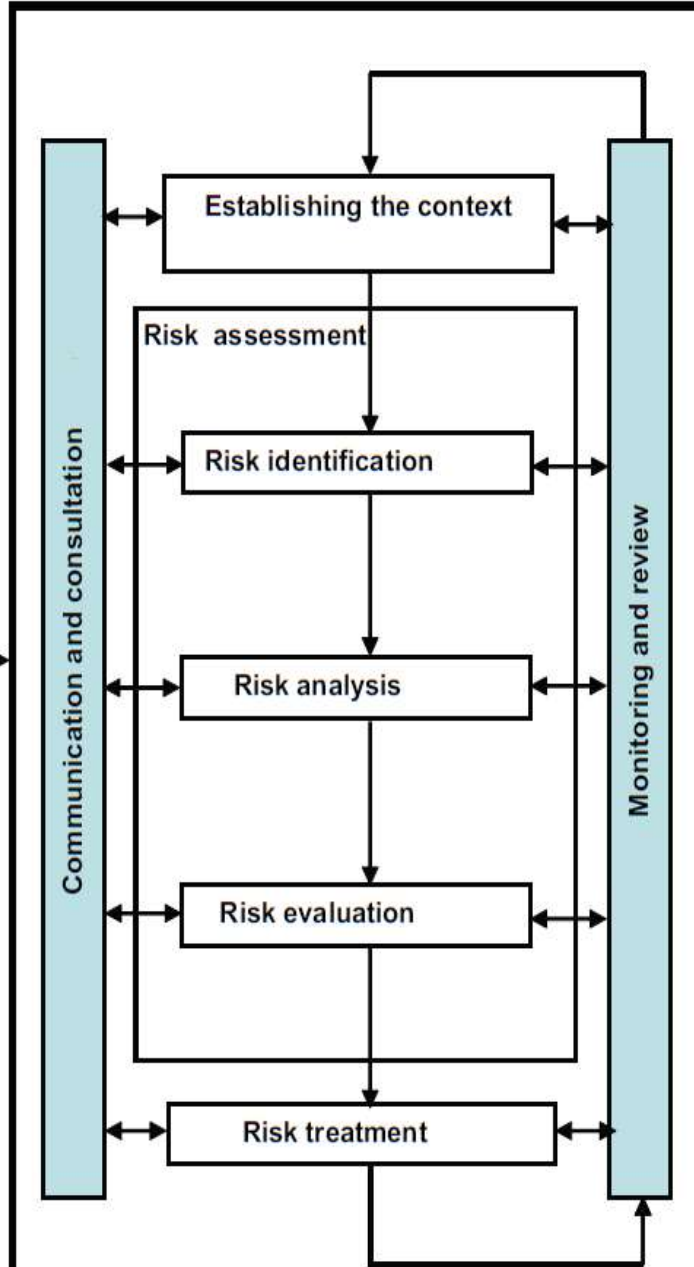
# **What is Risk Management, and What is Risk?**

- a) Creates value
- b) Integral part of organizational processes
- c) Part of decision making
- d) Explicitly addresses uncertainty
- e) Systematic, structured and timely
- f) Based on the best available information
- g) Tailored
- h) Takes human and cultural factors into account
- i) Transparent and inclusive
- j) Dynamic, iterative and responsive to change
- k) Facilitates continual improvement and enhancement of the organization

Principles



Framework



Process

# Objectives, Uncertainty and Decision Making

- Risk management means lots of things to lots of people
- Definition of risk management: *managing the effect of uncertainty on objectives* – not managing risk!
- Pursuing objectives creates risk, and risk requires decisions to be made, by people, about the effect of uncertainty on those objectives
- Prescribed burning requires uncertainty managers

# Methods and Myths

## Methods, Matrices and Tools

- The risk management Process can involve quantitative and qualitative, objective and subjective methods and tools – consequence, likelihood, risk levels, risk acceptance criteria
- Risk matrices etc. are decision support tools only – they can create an illusion of rigour and certainty
- Making, monitoring and reviewing decisions about objectives and uncertainty, requires consultation, communication, collaboration, and calibration of understandings between people

# Myths

1. Risk management is finished when a burn plan is approved
2. A pre-existing risk register contains all of the risks
3. The conditions, practices and decisions of last year and elsewhere, will apply again this year and at this burn
4. Outputs of gadgets, or decisions made by people based on role, rank or seniority will be comprehensive, correct and current
5. Identifying, communicating about, and managing uncertainty is the responsibility of others, not me
6. Risk management is complex and constrains prescribed burning



# **Challenging Assumptions and Making Good Decisions**

# Establishing the Context and Applying the Principles

- Establishing the context – e.g. scanning the environment, being situationally aware, selecting the right tools, consulting the right people, seeking the best information, observing changes
- Sources of risk: Political, Economic, Social, Technical (i.e. ops), Legal, Environmental (PESTLE)
- Focus on the Principles rather than narrowly focussing on the Process – create questions

# Principles as Questions

- (d) Explicitly addresses uncertainty
- Is the extent and quality of edging in a past season, or the effectiveness of aerial ignition on a previous day, known or assumed?
- As a burn planner, how will I present uncertainties and gaps in information to those who need to approve and implement this burn?

# Principles as Questions

- (e) Systematic, structured and timely
- Given the diversity of vegetation, harvested areas and fuels, what fuel sampling strategy is required, and will fuels outside the burn be assessed?
- Are key decisions noted and communicated to others, and are there any early warning signs that those decisions need adjusting?

# Principles as Questions

- (f) Based on the best available information
- Is the burn plan current, or what has changed since its preparation and approval?
- Have north-south running creek lines and informal reserves associated with logging coupes been adequately mapped to inform planning and operations?

# Principles as Questions

- (h) Takes human and cultural factors into account
- What are the community perspectives associated with this burn and adjoining land uses, and how do I understand and deal with them?
- What issues associated with Aboriginal sites need to be considered in conducting the burn, and for contingency planning in the event of an escape?
- Will external crews on the day be knowledgeable about local fuels, conditions and geography, and how will they be briefed and deployed?

# Principles as Questions

- (i) Transparent and inclusive
- Who needs to be consulted in the planning process, and who should review inputs, assumptions and outputs from decision support tools?
- How can engagement and communication activities provide confidence to the community that their concerns will be addressed?
- Has the plan for the burn and the day been adequately briefed so that everyone understands and can ask questions?

# Principles as Questions

- (j) Dynamic, iterative and responsive to change
- Do the actual conditions match those prescribed and forecast, and if not, what effects might they have and how will they be managed?
- Can ignition be halted and the burn contained and secured if an unplanned event occurs?
- Are particular persons required for certain key roles, and what effects on the operation might a change in their availability bring?



# Principles as Questions

- (c) Part of decision making
- Does everyone in the chain of command understand the objectives for the burn, for the operation on the day, for the sector ...?
- Does a decision to light this burn, given the diversity and availability of fuels, commit us to active burn management for a period longer than normal weather cycles?

# Principles as Questions

- (a) Creates value
- Is this burn a priority, and of strategic importance to the burn program and the bigger picture?
- Is the burn plan, created and approved weeks or months in advance, operationally useful, and if not, what else is needed to get the job done?

# Principles as Questions

- (g) Tailored
- Are standard operational practices, and local norms, appropriate for this particular burn?
- What could be done differently and better, based on lessons learned, perhaps from a previous ignition of the same burn?

# Principles as Questions

- (b) Integral part of organisational processes
- Are objectives, uncertainties and assumptions routinely discussed in burn planning meetings, between Duty Officers, at briefings in the field, and during After Action Reviews?

# Principles as Questions

- (k) Facilitates continual improvement and enhancement of the organisation
- What did we plan to do with this burn, and what happened after the match was struck?
- Were the objectives for the burn and for each ignition clear?
- Did planning decisions address uncertainty and assumptions, plus lessons from previous ignitions?
- What decisions could have been improved?
- What have we learned from it, and have those lessons been shared with others?

# Workshop Session

- Phase 1: Planning Scenario (20 mins)

Groups to work through the scenario and answer:

1. Use the principles of ISO 31000 to create questions that can draw out uncertainties
  2. What are those questions?
  3. Who are the key players in this scenario?
- Each group presents one example from their answers (15 mins)

# Workshop Session

- Phase 2: Implementation Scenario (10 mins)

Groups to work through the scenario and answer:

1. What was one key assumption that you made as part of the planning process that was incorrect?
  2. Did you test it in the planning phase, and if so, how could that testing have been more effective?
  3. Who were the key players with knowledge that could have improved the testing of assumptions?
- Each group presents one example from their answers (10 mins)